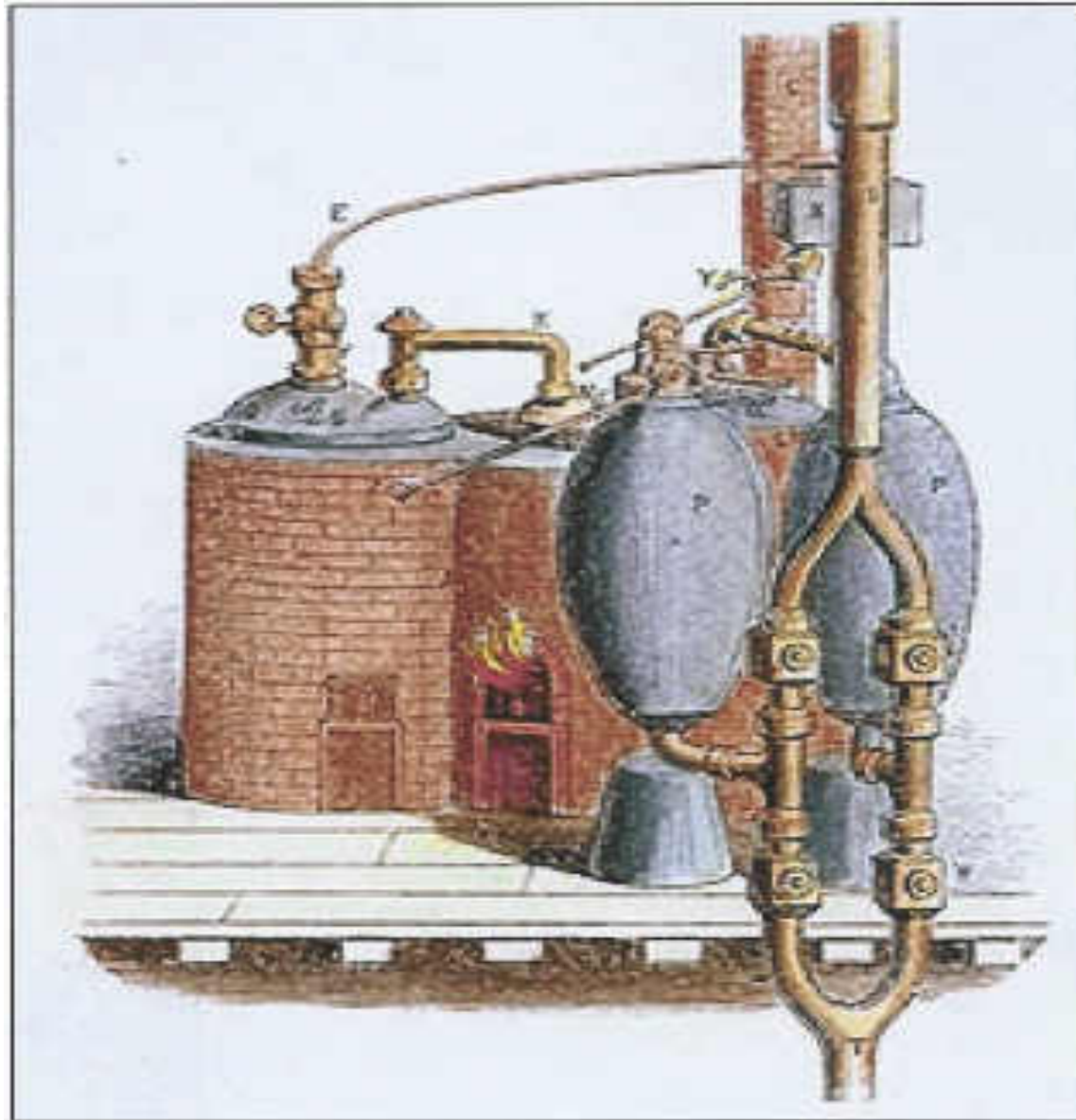


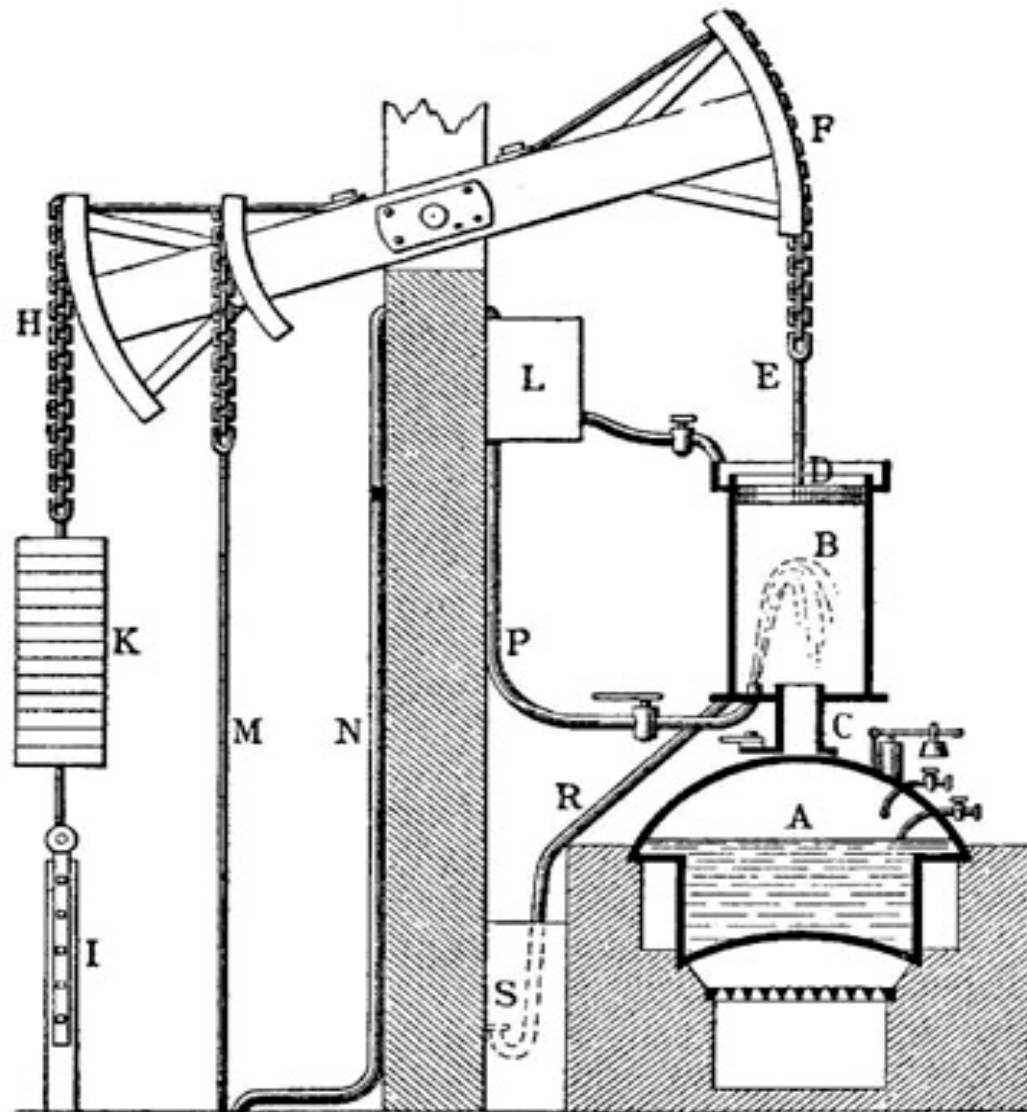


**Pre-Industrial production of textiles: The Domestic (or Cottage) System**

# Savery's Steam Powered Water Pump: The world's first engine (1698)



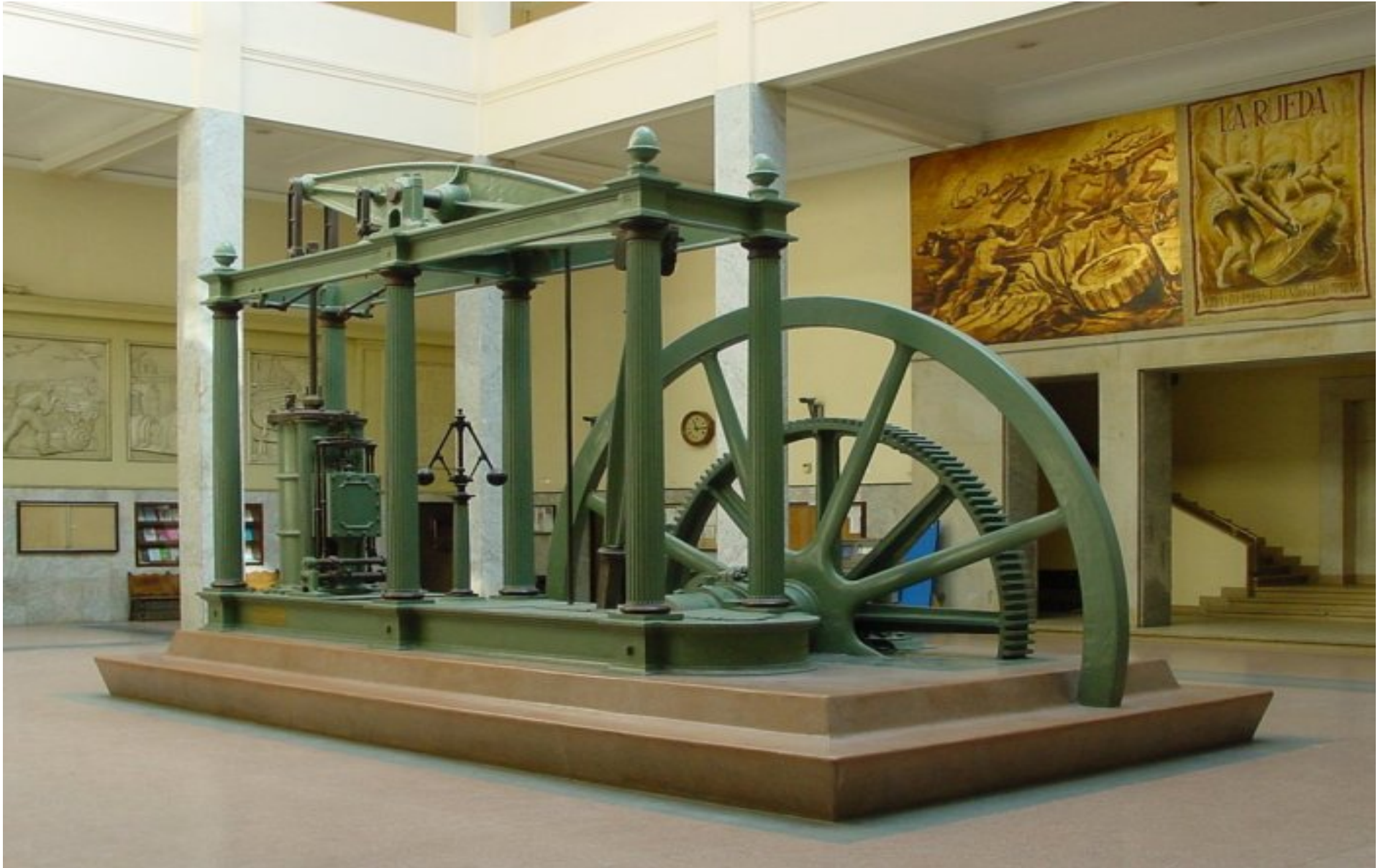
# Newcomen's steam powered atmospheric engine (1712)



# The Spinning Jenny (1764)



# James Watt's Steam Engine (1775)



# The Spinning Mule (1779)



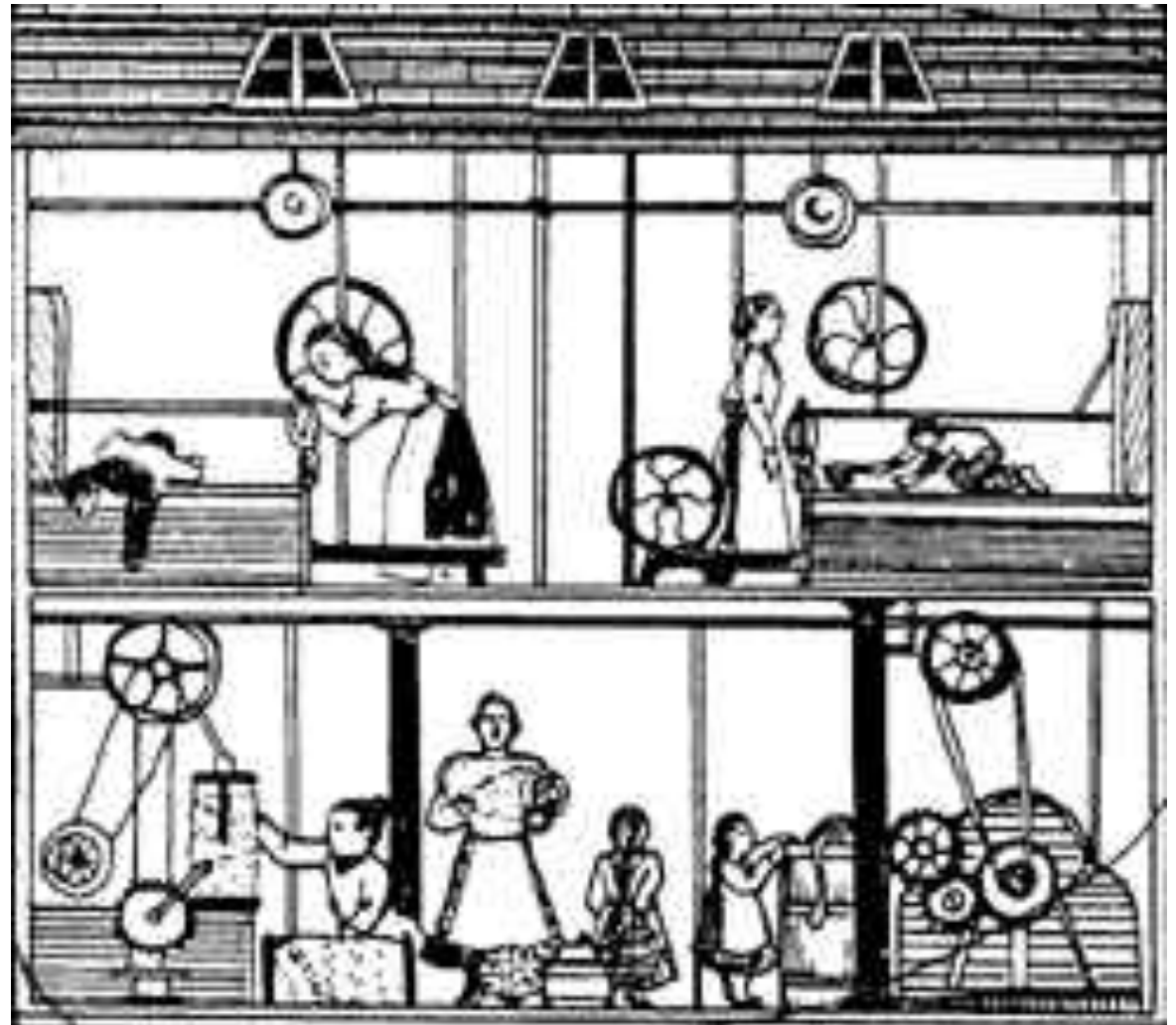
-Before the Industrial Revolution, all manufacture of products like textiles was done at home and on a small scale. This was called the cottage or domestic system.

-Business were often family-run, and everyone did their part.

-Textile production: children cleaned the wool, women spun the fibers into thread and men wove the thread into cloth.

-Slow and tedious work.

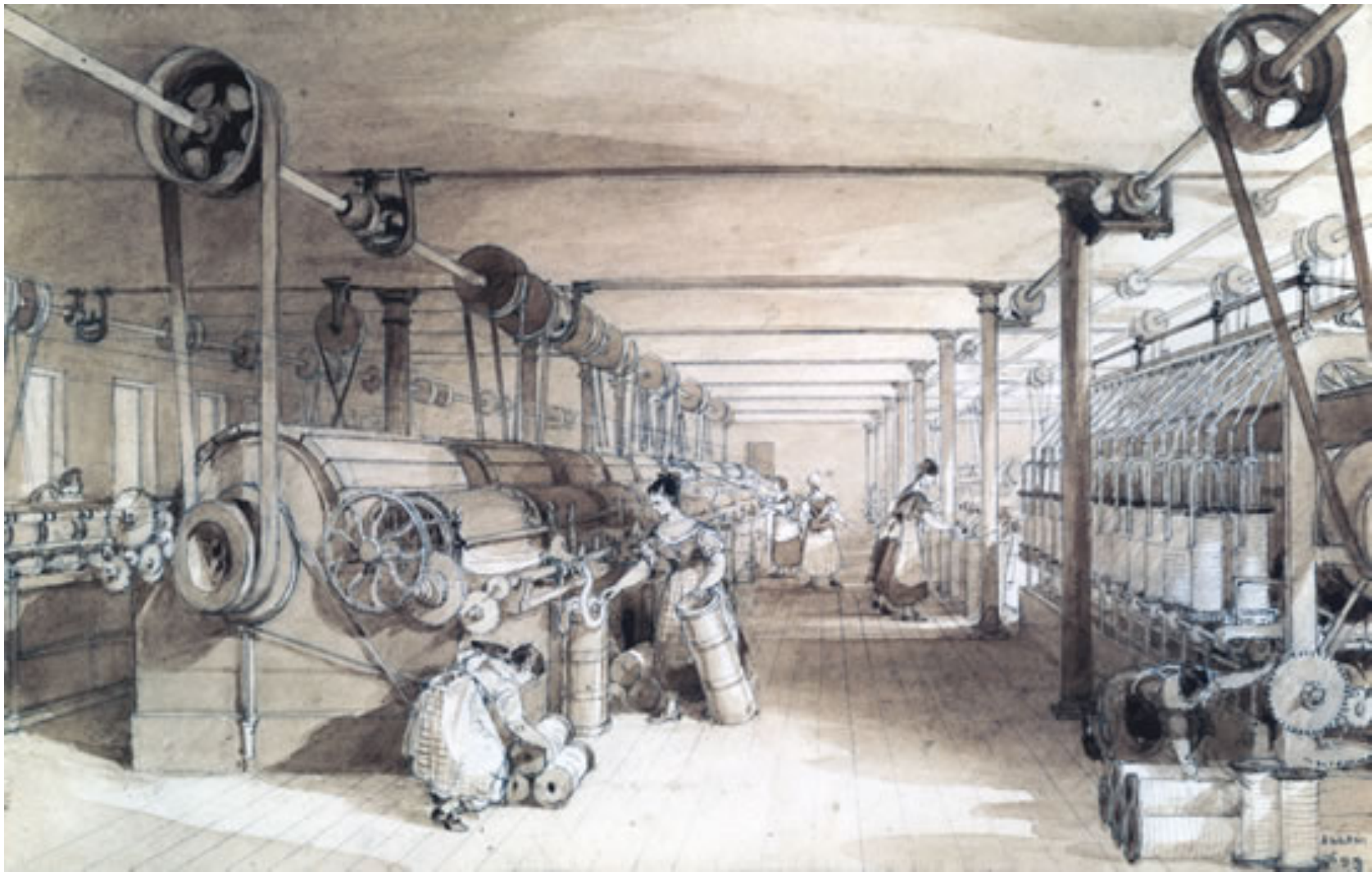
-Products were expensive, because production took so long.



Advanced weaving machines become too large and too expensive to be used by weavers at home.

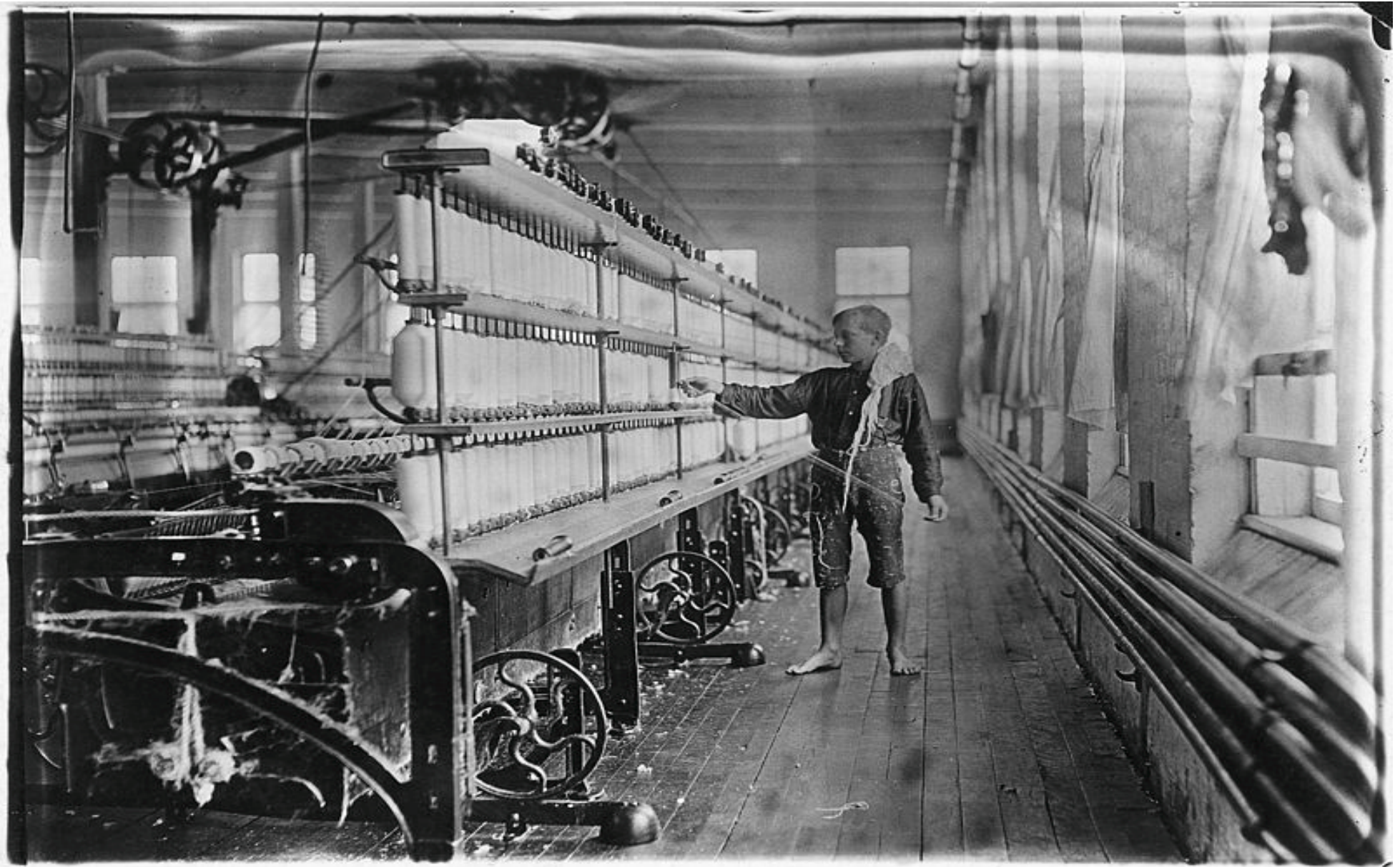
Factories could produce goods in less time and at a lower cost with new technology powered by water and steam.

Weavers, spinners and unskilled laborer stop working for themselves in the home and start working in factories for wages.

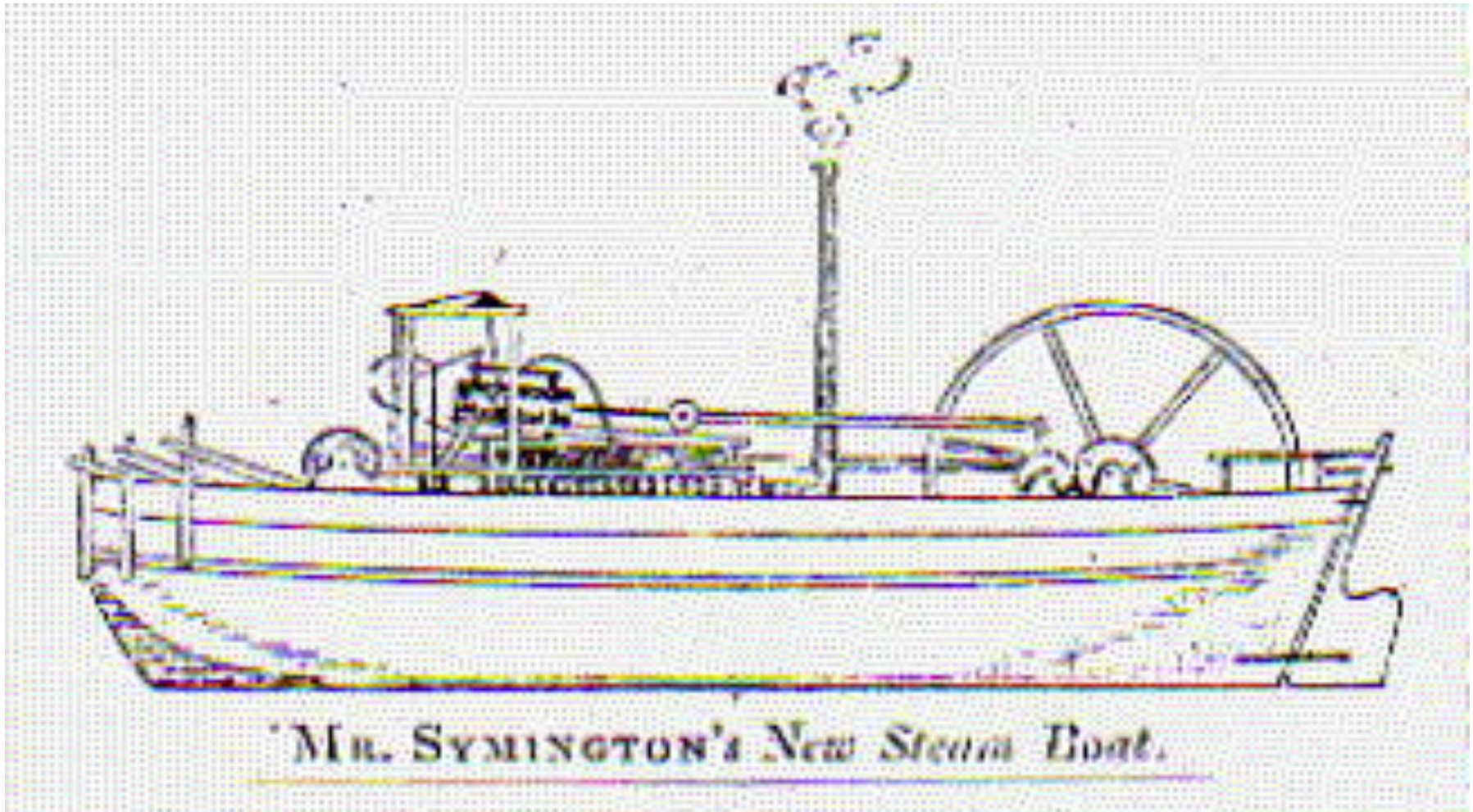


# Industrial-age textile mill

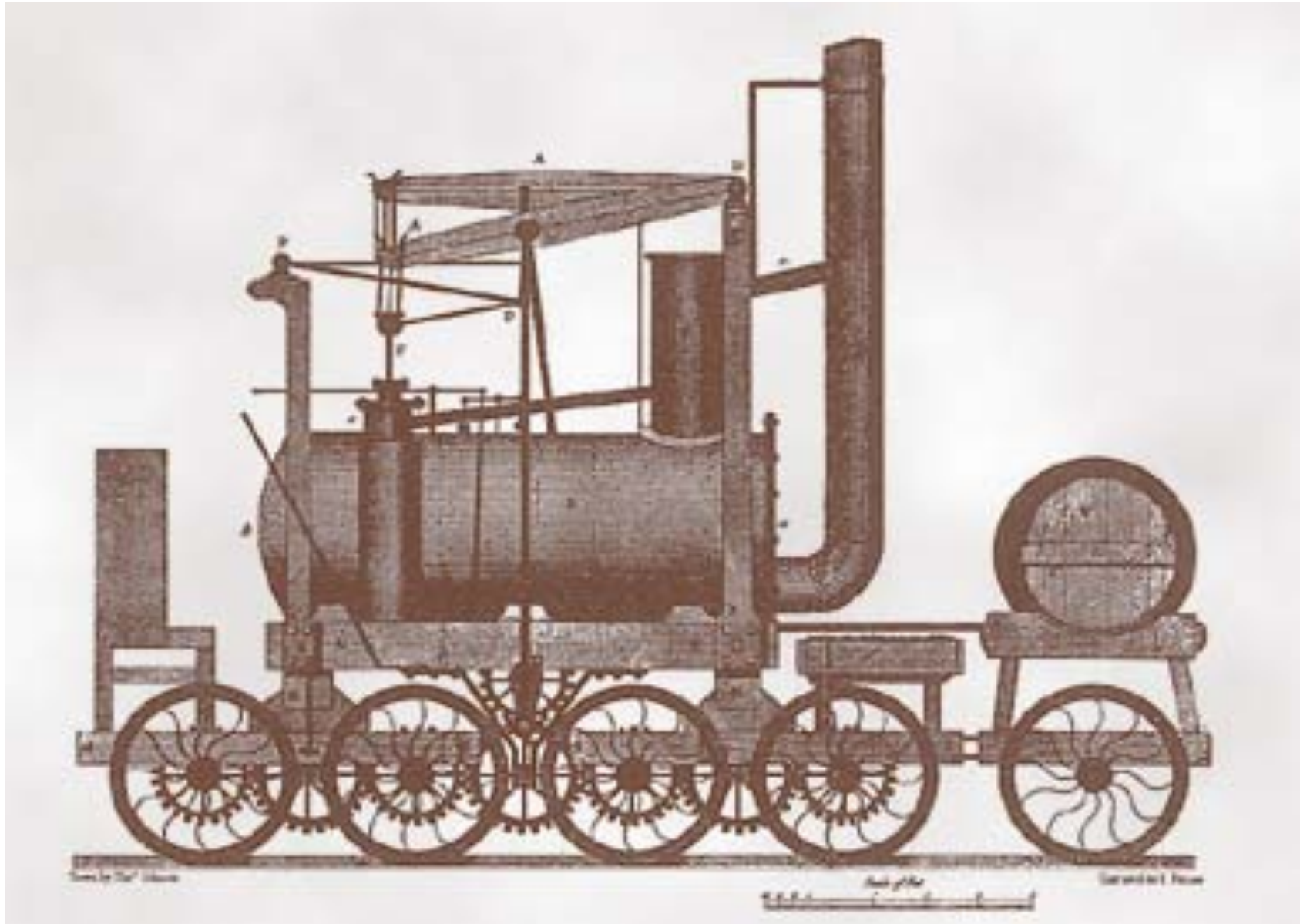
(combined spinning and weaving inventions with steam power)



# The *Charlotte Dundas* (1803)



# Puffing Billy (1813): an early railway steam engine



# “Coalbrookdale by Night” (1801)

Philip Jakob Loutherbourg the Younger



# “Cottonopolis”: Manchester, England (1840)

